REMARKS

Applicants' undersigned attorney thanks the Examiner for the Examiner's comments. Applicants respectfully request reconsideration of this patent application, particularly in view of the above Amendment and the following remarks. Currently, Claims 1-41 are pending, with Claims 27-41 withdrawn from consideration.

Amendments to the Claims

Claims 1-26 have been examined, and no claims have been allowed.

Claim 1 has been amended to recite the coating consisting essentially of zinc and containing one or more high oxygen affinity elements in a total quantity of 0.1 % by weight to 15 % by weight in relation to the overall coating.

No new matter has been added by this Amendment. No additional fee is required because the number of independent claims remains unchanged and the total number of claims also remains unchanged.

Claim Rejections - 35 U.S.C. §102

The rejection of Claims 1-4, 8, 10-14, and 16-18 under 35 U.S.C. §102(b) as being anticipated by Imai et al. (WIPO Publication No. WO 03/035922, whose English equivalent is U.S. 2004/0166360) is respectfully traversed.

Imai fails to disclose a method for producing a hardened steel part having cathodic corrosion protection, as recited in Applicants' claimed invention.

The Office Action erroneously cites Fig. 1 as relevant for a cooling rate, particularly for disclosing a cooling rate that is calculated to achieve a hardening of a sheet alloy. In reality, Fig. 1 shows how the uncoated steel is heated to a maximum heating temperature, then cooled, and then galvanized (galvanizing bath 460°C); afterwards, the uncoated steel is shortly galvanealed and then cooled down. In this step of the process in Imai, no hardening occurs, it is only the coating of the steel that takes place. Thus, Fig. 1 shows a normal galvanealing process, in which the steel is at first heated, then coated and then galvanealed, but definitely not hardened because after the galvanizing bath the galvanealing temperature is lower than 600°C, which is far too low to achieve a hardened steel part.

Referring to the description in paragraph [0030], Imai states that Fig. 1 is a schematic view of a thermal history which simulates a continuous hot dip galvanizing line used in Example 8. Fig. 1 has nothing to do with a hot-press forming or the like.

The Office Action cites paragraph [0052] of Imai. In paragraph [0052] the galvanealing step is mentioned, which is shown in Fig. 1. It is mentioned "that a base steel sheet is hot dip galvanized with a zinc plating followed by heating in an oxidizing atmosphere, which means a galvanealing heat treatment under prescribed conditions. This is carried out by reheating the galvanized steel sheet in a gas furnace or the like (Fig. 1). At this time, not only oxidation of the surface of the plated layer but metal diffusion between the plated layer and the base steel sheet takes place. The heating temperature therefore is usually **550-650°C**".

This temperature is far too low for a hardening of the steel. A steel hardening in this case can only be reached if the steel sheet is heated up to more than 823°C, which is well known for a person skilled in the art. This point is a so-called Ac_3 point. Again, following the process according to paragraph [0052] the steel will never reach the Ac_3 point and therefore the process will never result in a hardened steel part.

Fig. 1 illustrates another difference between Imai and the present invention. Applicants' claimed invention does not have a galvanealing step. A galvanealing step is not mentioned in any part of the description of the invention nor in the claims. One main difference between Imai and Applicants' claimed invention is therefore that in Imai, after the hot dip galvanizing, a separate heat treatment and oxidation of the steel sheet and the zinc coating is achieved by heating the steel up to 550-650°C and afterwards cooling it down. A steel sheet with a preoxidized coating is achieved after the heating progresses further.

Paragraphs [0057] and [0059] of Imai, also cited in the Office Action, mention possible zinc based plating layers, wherein some of them are used in the invention, too. Again in paragraphs [0078] and [0079] it is mentioned that the surface oxidation method is slightly different from the invention. The surface oxidation (of the zinc based plated layer) happens directly after the hot dip galvanizing (which means directly after the coating with zinc).

According to paragraph [0101], such a preoxidized zinc oxide coated steel sheet is then heated to the austenitic range or near the austenitic range prior to hot-press forming and then subjected to press forming in this temperature range.

This means that the zinc oxide layer is achieved by a preoxidizing of the zinc plating of the steel sheet and afterwards the steel sheet with the zinc and zinc oxide plating layer is subjected to an austenitization. The difference here between Applicants' claimed invention and Imai is that in Applicants' claimed invention the diffusion of the aluminum to the outer surface of the plating layer happens while the steel sheet is austenitized at the high temperatures. This will not happen in the Imai reference because in Imai a preoxidation of the surface of the plating layer is achieved at much lower temperatures in the preoxidizing step. This appears to be responsible for the difference in the plating layers, as in Applicants' claimed invention there is definitely no zinc oxide at the surface of the plating layer but only aluminum oxide, which protects the zinc from oxidizing to zinc oxide. On the contrary, in Imai a zinc oxide layer is desired and an aluminum oxide layer is not mentioned at all.

Regarding claims 1, 2, 8, and 10, Imai teaches forming the hardenable steel alloy into a steel sheet but in a two step process and not in a one step process as in Applicants' claimed invention. Therefore, the coating and process in Imai is different from Applicants' claimed invention.

Regarding Claims 3 and 4 Imai further teaches coating by claimed hot dipping or electrolytic disposition, but still fails to disclose each and every limitation recited in Applicants' Claim 1.

Regarding Claims 11 to 14, once again, Imai does not teach the same coating process as claimed by Applicants, as directly afterwards a galvanealing step in an oxidating atmosphere is processed, which is not done in Applicants' claimed invention. Therefore, the zinc layer of Imai is transferred into a zinc oxide layer, whereas in Applicants' claimed invention the zinc layer is not oxidized but a surface of aluminum oxide protects the zinc from oxidizing.

For at least the reasons given above, Applicants respectfully submit that Imai fails to disclose each and every limitation of Claim 1. Since Claims 2-4, 8, 10-14, and 16-18 depend from Claim 1, either directly or indirectly, Imai also fails to anticipate these claims.

Claim Rejections - 35 U.S.C. §103

A. Imai et al.

The rejection of Claim 15 under 35 U.S.C. §103(a) as being unpatentable over Imai et al. is respectfully traversed.

Imai not only fails to disclose Applicants' claimed invention as recited in independent Claim 1 from which Claim 15 depends, as explained above, Imai also teaches away from Applicants' claimed invention. In particular, because Imai teaches to oxidize the zinc layer, Imai teaches away from the protective properties recited in Applicants' claimed invention.

As mentioned on page 8, first paragraph of Applicants' specification, this very thin oxide layer of the high oxygen affinity element protects the underlying zinc-containing corrosion protection coating from **oxidation, even at very high temperatures**.

In contrast, Imai teaches to oxidize this zinc layer, which should be protected by the invention from oxidation. Thus, Imai fails to disclose or suggest the limitation of the coating consisting essentially of zinc and containing one or more high oxygen affinity elements in a total quantity of 0.1 % by weight to 15 % by weight in relation to the overall coating, as recited in Applicants' Claim 1.

Consequently, in the absence of impermissible hindsight, Imai et al. fails to disclose or suggest Applicants' claimed invention.

For at least the reasons given above, Applicants respectfully submit that the teachings of Imai et al. fail to disclose or suggest Applicants' claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

B. Imai et al. in view of Arezzo et al.

The rejection of Claims 5-7 and 9 under 35 U.S.C. §103(a) as being unpatentable over Imai et al. in view of Arezzo et al. (U.S. Patent No. 6,335,053) is respectfully traversed.

As explained above, Imai not only fails to disclose Applicants' claimed invention as recited in independent Claim 1 from which Claims 5-7 and 9 depend, Imai teaches away from Applicants' claimed invention.

Furthermore, Arezzo teaches only a coating process for a steel band. The combination of Arezzo and Imai does not lead to a one-step process with an aluminum oxide

skin on the zinc coating to protect the zinc coating from oxidizing. Thus, there is no suggestion or motivation to combine the teachings of Imai and Arezzo to arrive at Applicants' claimed invention.

For at least the reasons given above, Applicants respectfully submit that the teachings of Imai et al. in view of Arezzo et al. fail to disclose or suggest Applicants' claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

C. Imai et al. in view of Applicants' admitted prior art

The rejection of Claims 19 and 21-26 under 35 U.S.C. §103(a) as being unpatentable over Imai et al. in view of Applicants' admitted prior art is respectfully traversed.

In paragraph [0018] of the subject specification it is mentioned that forming steel parts and simultaneously hardening them in a single step is well known, but it has not been obvious to a person skilled in the art that using a specific zinc coating in this process leads to an aluminum oxide protection skin on the zinc coating, which protects the zinc coating from oxidizing. A person skilled in the art at the time of Applicants' claimed invention would not have expected that, as for example Imai says that a preoxidizing step is needed to form a zinc oxide layer to securely have the zinc coated steel sheet heated to the austenitization temperature.

For at least the reasons given above, Applicants respectfully submit that the teachings of Imai et al. fail to disclose or suggest Applicants' claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

D. Imai et al. in view of Gegner

The rejection of Claim 20 under 35 U.S.C. §103(a) as being unpatentable over Imai et al. in view of Gegner (U.S. Publication No. 2003/0193120) is respectfully traversed.

As explained above, Imai not only fails to disclose Applicants' claimed invention as recited in independent Claim 1 from which Claim 20 depends, Imai teaches away from Applicants' claimed invention. Gegner fails to overcome the deficiencies or the contradictory nature of Imai in view of Applicants' claimed invention.

For at least the reasons given above, Applicants respectfully submit that the teachings of Imai et al. in view of Gegner fail to disclose or suggest Applicants' claimed invention.

Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Double Patenting

A. Application Serial No. 10/566,219

The rejection of Claims 1-26 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1-14 of co-pending U.S. Patent Application No. 10/566,219 is respectfully traversed.

Where a provisional rejection on the ground of nonstatutory obviousness-type double patenting is made between two or more co-pending applications, MPEP §804(I)(B) states that "[i]f a "provisional" nonstatutory obviousness-type double patenting (ODP) rejection is the only rejection remaining in the earlier filed of the two pending applications, while the later-filed application is rejectable on other grounds, the Examiner should withdraw that rejection and permit the earlier-filed application to issue as a patent without a terminal disclaimer," and "[i]f both applications are filed on the same day, the examiner should determine which application claims the base invention and which application claims the improvement (added limitations). The ODP rejection in the base application can be withdrawn without a terminal disclaimer, while the ODP rejection in the improvement application cannot be withdrawn without a terminal disclaimer."

Applicants believe that all claims in the present case are now in condition for allowance. Since this application and U.S. Patent Application No. 10/566,219 claim the same priority date, Applicants respectfully request the Examiner to determine which application claims the base invention and which application claims the improvement.

B. Application Serial No. 10/566,069

The rejection of Claims 1-26 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1, 3, and 8-28 of co-pending U.S. Patent Application No. 10/566,069 is respectfully traversed.

Where a provisional rejection on the ground of nonstatutory obviousness-type double patenting is made between two or more co-pending applications, MPEP §804(I)(B) states that "[i]f a "provisional" nonstatutory obviousness-type double patenting (ODP) rejection is the only rejection remaining in the earlier filed of the two pending applications, while the later-

filed application is rejectable on other grounds, the Examiner should withdraw that rejection and permit the earlier-filed application to issue as a patent without a terminal disclaimer," and "[i]f both applications are filed on the same day, the examiner should determine which application claims the base invention and which application claims the improvement (added limitations). The ODP rejection in the base application can be withdrawn without a terminal disclaimer, while the ODP rejection in the improvement application cannot be withdrawn without a terminal disclaimer."

Applicants believe that all claims in the present case are now in condition for allowance. Since this application and U.S. Patent Application No. 10/566,069 claim the same priority date, Applicants respectfully request the Examiner to determine which application claims the base invention and which application claims the improvement.

Conclusion

Applicants intend to be fully responsive to the outstanding Office Action. If the Examiner feels that any issues remain regarding this Amendment, then Applicants' undersigned attorney would like to discuss the case with the Examiner. Applicants sincerely believe that this Patent Application is now in condition for allowance and, thus, respectfully request early allowance.

Applicants believe no fees are due with respect to this filing. However, should the Office determine fees are necessary, the Office is hereby requested to contact the undersigned to arrange for payment.

Respectfully submitted,

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